



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,464	03/11/2005	Masashi Iwata	Q86804	3586
23373	7590	11/29/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			NGUYEN, PHUONGCHI T	
			ART UNIT	PAPER NUMBER
			2833	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/527,464

Applicant(s)

IWATA ET AL.

Examiner

Phuongchi Nguyen

Art Unit

2833

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |                                                                                                                                              |                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/11/05</u> . | 6) <input checked="" type="checkbox"/> Other: <u>Attachment 1 &amp; 2</u>              |

## DETAILED ACTION

### *Drawings*

1. Figures 7 and 8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 3-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Hanazaki et al (US5739741).

In regards to claim 1, Hanazaki et al discloses a fuse (1) comprising a fuse body (of 1); a housing (10) which is made of an insulative resin, and receives and holds the fuse body (of 1) therein, and into which the fuse body (of 1) is inserted through an upper opening (at one end of 10) in the housing (10); and a cover (9) which is made of an insulative resin, and covers the upper opening (at one end of 10) in the housing (10), wherein a retaining portion (R) is formed on a side surface of the housing (attachment 1). "Corresponding to a retaining claw of a

withdrawing jig for withdrawing the housing is formed on a side surface of the housing” is not positively recited in the claim.

In regards to claims 3 and 4, Hanazaki et al discloses the fuse wherein a pair of the retaining portions (R, R) (on both sides of 10) are provided on opposite side faces of the housing (10) so that the retaining portions (R, R) are aligned in an extending direction of a fusible portion (body of 1)/terminal portions (body of 1) of the fuse body (of 1).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanazaki et al (US5739741) in view of Kanamori (US5662496).

In regards to claim 2, Hanazaki et al discloses the invention general substantially as claimed, but lacks the first and second ridges of the retaining portion. Kanamori discloses the fuse wherein the retaining portion (30) includes a first ridge portion (A) which is formed at an upper portion of the side surface of the housing (10), and is disposed perpendicularly to a longitudinal axis of the housing (10), and two second ridge portions (B1, B2) which extend perpendicularly from opposite ends of the first ridge portion (A), respectively, and are disposed parallel to the longitudinal axis of the housing (10) (attachment 2). It would have been obvious to one having ordinary skill at the time the invention was made to modify the fuse of Hanazaki et al

by having the ridges as taught by Kanamori on the retaining portion of the fuse for ease pulling the fuse out of the system housing.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Muramatsu et al (US5739739), JP2002-140976, JP2004281078, Ito (US5666865) and Seki et al (US5629663) are cited to show in the fuse system having the retaining claw of a withdrawing jig.


### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchi Nguyen whose telephone number is (571) 272-2012. The examiner can normally be reached on 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Bradley can be reached on (571) 272-2800 ext 33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PCN  
November 2, 2005

  
GARY F. PAUMEN  
PRIMARY EXAMINER



US005739741A

**United States Patent** [19]

Hanazaki et al.

[11] Patent Number: **5,739,741**[45] Date of Patent: **Apr. 14, 1998**[54] **METHOD OF INTERRUPTING CURRENT IN FUSE AND FUSE STRUCTURE**

4,944,084 7/1990 Horibe et al. 29/623

5,528,213 6/1996 Kondo et al. 337/160

[75] Inventors: **Hisashi Hanazaki; Mitsuhiro Totsuka,**  
both of Shizuoka, Japan**FOREIGN PATENT DOCUMENTS**[73] Assignee: **Yazaki Corporation, Tokyo, Japan**

A14241922 6/1993 Germany.

62-1349 1/1987 Japan.

5166453 7/1993 Japan.

[21] Appl. No.: **701,732**[22] Filed: **Aug. 22, 1996****Related U.S. Application Data**

[63] Continuation of Ser. No. 495,106, Jun. 27, 1995, abandoned.

[30] **Foreign Application Priority Data**

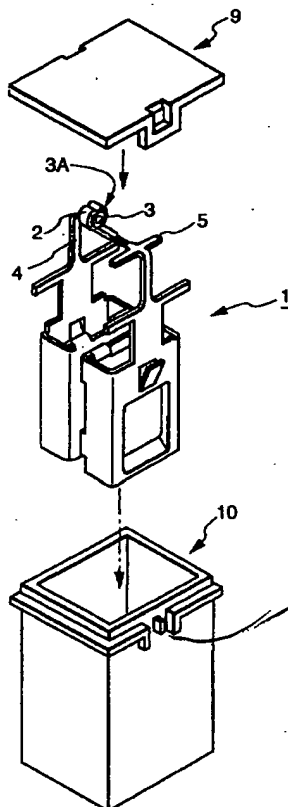
Jun. 30, 1994 [JP] Japan 6-149913

[51] Int. Cl.<sup>6</sup> H01H 825/04; H01H 85/08[52] U.S. Cl. 337/290; 337/160; 337/198;  
337/295[58] Field of Search 337/160-165,  
337/195-198, 262, 295, 296, 290; 29/623;  
439/621, 622[56] **References Cited****U.S. PATENT DOCUMENTS**

3,116,390 12/1963 Goody et al. 337/296

*Primary Examiner*—Leo P. Picard*Assistant Examiner*—Jayprakash N. Gandhi*Attorney, Agent, or Firm*—Sughrue, Mion, Zinn, Macpeak  
& Seas, PLLC[57] **ABSTRACT**

A metal chip of low-melting metal having a cavity is fixedly held by an embracing portion of a fusible portion of a fuse of a fusible metal conductor. The metal chip has a predetermined outer diameter, and by changing a diameter of a through hole defining the cavity, the volume of the cavity can be adjusted. By doing so, fusion characteristics of the fusible portion can be adjusted.

**4 Claims, 4 Drawing Sheets**

Attachment 1

U.S. Patent

Sep. 2, 1997

Sheet 1 of 3

5,662,496

*Attachment 2*  
*1st ridge portion*  
*2nd ridge portion*

